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[54] **SYSTEM FOR SYNCHRONIZATION
BETWEEN MOVING PICTURE AND A TEXT-
TO-SPEECH CONVERTER**

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[58] **Field of Search** 704/260, 270,
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[56] **References Cited**

U.S. PATENT DOCUMENTS

5,500,919	3/1996	Luther	704/260
5,630,017	5/1997	Gasper et al.	704/276
5,657,426	8/1997	Waters et al.	704/276
5,677,739	10/1997	Kirkland	348/468
5,689,618	11/1997	Gasper et al.	704/276

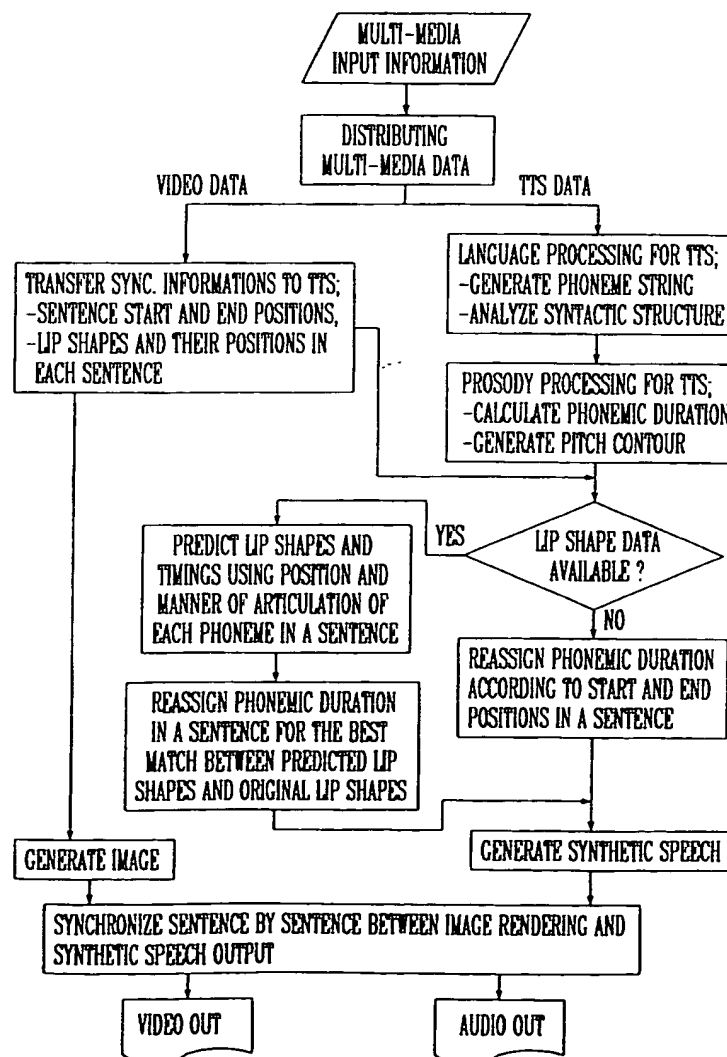
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[57] **ABSTRACT**

A method of formatting and normalizing continuous lip motions to events in a moving picture besides text in a Text-To-Speech converter is provided. A synthesized speech is synchronized with a moving picture by using the method wherein the real speech data and the shape of a lip in the moving picture are analyzed, and information on the estimated lip shape and text information are directly used in generating the synthesized speech.

4 Claims, 3 Drawing Sheets



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